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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
HOWELL, DANIEL W				
ART UNIT		PAPER NUMBER		
3722				

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,273

Applicant(s)

STOKEY ET AL.

Examiner

Daniel W. Howell

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14,17-21 and 23-27 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 15, 16, 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6-28-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

1. The disclosure is objected to because of the following informalities: in the Brief Description of the Drawings section, each of figures 3a, 3b, 3c, 3d, 3e, 4a, 4b, 4c, 4d, 4e, 5a, 5b, 5c, 5d, and 5e should be listed separately.

Appropriate correction is required.

2. Claims 5 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The word "insert" should be inserted before "body" on line 1 of claim 5, as the "drill body" is generally considered to be the holder part, not the insert itself. In order to provide antecedent basis for the helical flutes, claim 23 should depend from claim 22.
3. Before making any rejections, the examiner will make a comment about claim 9 (and the other similar claims). As seen from the attached glossary from the Tool and Manufacturing Engineers Handbook, a cutting edge inherently has a corresponding parallel lip.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5-7, 9, 10, 13, 17, 19, 20, 24, 26, and 27 are rejected under 35 U.S.C. 102(a) as being anticipated by Heule (6551036). See figures 4-7. Insert 1 has flat parallel backs 18, 19, bottom 31, two curved cutting edges 14, 17, having the inherent lips, and two screw holes for connecting the insert to the holder 7. As seen from figure 5, the forward edge of the margin is helical. Figure 1 shows a recess 5 which mates with a pin. As stated at column 3, lines 12+, the

insert is made of a hard metal or high strength cutting steel. As stated at column 3, lines 35+, the screws 11, 12 prestress the insert against the base of the slot, and in order to do so the two sets of apertures are inherently slightly offset.

6. Claims 1, 2, 6, 7, and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Reinauer et al (5599145). Figures 4-7 show an insert having parallel flat backs 30', 30'', curved cutting edges 26', 26'', with the inherent lips, flat bottom 36, and a helical margin of constant width (unnumbered, but clearly seen in figure 7). Column 8, lines 35+, state that the insert may be made of hard metal, ceramic, or cermet, and high speed steel is inherently considered to be a hard metal.

7. Claims 1, 2, 6, 7, and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT WO 00/07761. It is noted that the PCT document corresponds to US 6,514,019, such that the examiner will refer to the English language US document. See figures 4-7b. Note flat backs 6a, 6b, curved cutting edges 30a, 30b, with the inherent lips, bottom 6c, and lands having a helical margin of constant width (unnumbered, but clearly seen in figure 7a). Column 15, lines 16+, state that the insert may be made of carbide metal, ceramic and cermet materials, and a sintered plate.

8. Claims 1, 6, 7, 9-12, 20, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Galvefors (4744704). Insert 22 has two flat backs 30, 31, two cutting edges which are curved toward the center of the insert and which inherently have lips, a generally flat-bottom 38, and a margin having a helical lead edge (near the lead line for numeral 40 in figure 5). Note the two unnumbered holes for screws, and figure 3 shows two unnumbered coolant holes. As

stated at column 2, lines 21+, the insert if made of hard metal, such as cemented carbide, and high speed steel is considered to be a hard metal.

9. Claims 1, 2, and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Nevills (5,452,971). See figures 14-18. The insert has two flat and parallel backs which will rest against surfaces 56a, b, of the holder. Note flat bottom 57 and the helical margin adjacent the lead line for numeral 47 in figure 15. The cutting edges 38 inherently have lips are equipped with a plurality of chip breaking grooves. As seen from figure 14, the cutting edges are curved nearer to the center of the insert.

10. Claims 1, 2, 6, 7, 9, 20, 21, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese 2000-84718. Insert 4 has two parallel flat backs 8, curved cutting edges 14 with the inherent lips, apertures 3 for screws, and a helical margin of constant width (best seen in figures 7, 8, and 11).

11. Claims 1, 2, and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by UK 550,306. Note the parallel flat backs (figure 4), the curved cutting edges with the inherent lips (figure 2), and the helical margin (figure 3). Note also the unnumbered chip breaking grooves on the cutting edges.

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 5, 13, 14, 17-21, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK '306 in view of Rodel et al (5,474,407). It is noted that lines 66-70 of page 1 of the UK reference disclose that the body 10 may be provided with conventional grooves/channels to supply oil. The insert of the UK device has a pin 15 having a hole 16 through which a dowel will extend in order to secure the insert to body 10. The dowel is necessarily so small that it will eventually bend or break, which will damage the workpiece. Rodel et al shows a much better securing system. Body 5 is provided with a pin 11 which extends into a recess 20 on flat bottom 17 in the insert 2. Further, the insert has two holes 15, 16, for the insertion of screws 3. As seen in figure 3, the axes 13, 24, of the screw and hole are offset. As discussed at column 4, lines 15+, this offset provides one force component which holds the insert against the pin 11 and another force component which holds the insert securely down against the bottom 9 of the slot 4 in the holder. It is considered to have been obvious to have provided the UK device with this securing system as taught by Rodel et al in order to securely hold the insert in the slot of the holder.

14. Claims 3, 4, 15, 16, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Applicant should carefully consider ALL of the art which has been made of record. Several of the other pieces of art could also have been applied under 35 USC 102(b), but this has not been done in order to avoid redundant rejections. For future reference of the examiner, it is noted that all of the insert materials are disclosed at column 4, lines 40+ of US 6,685,402, and the offset screw/holes are also shown by figure 7 of Nuzzi et al 5,957,635.

Application/Control Number: 10/780,273

Page 6

Art Unit: 3722

16. Any inquiry concerning the content of this communication from the examiner should be directed to Daniel Howell, whose telephone number is 571-272-4478. The examiner's office hours are typically about 10 am until 6:30 pm, Monday through Friday. The examiner's supervisor, Andrea Wellington, may be reached at 571-272-4483.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office actions directly into the Group at FAX number 703-872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Daniel Howell of Art Unit 3722 at the top of your cover sheet.



Daniel W. Howell
Primary Examiner
Art Unit 3722